

ABSTRACT OF THE DISCLOSURE

There is provided a flexible transmission device capable of automatically setting an optimal point for a signal decision making with high accuracy, so that highly reliable high-quality signal regeneration control is achieved. A clock timing extraction circuit dynamically sets a frequency-dividing ratio based on the transmission rate of an input signal to perform a phase synchronization control so that there is a fixed phase difference between the input signal and an oscillation output, whereby clock timing based on the transmission rate can be extracted. A regeneration control circuit sequentially sweeps a voltage threshold level and the phase of the extracted clock with respect to the input signal and determines whether the levels of adjacent monitor points match, whereby a decision point within the valid zone of the eye pattern can be automatically measured and used as the optimal point for regeneration control.